REMARKS

In view of the following discussion, the Applicants submit that none of the claims now pending in the application is obvious under the provisions of 35 U.S.C. §103. Thus, the Applicants believe that all of these claims are in allowable form.

I. REJECTION OF CLAIMS 1-64 UNDER 35 U.S.C. § 103

Claims 1-64 stand rejected as being unpatentable over the Agarwal et al. application (U.S. Patent Application Publication No. 2004/0179486, published September 16, 2004, hereinafter referred to as "Agarwal") in view of the Banerjee application (U.S. Patent Application Publication No. 2002/0147722, published October 10, 2002, hereinafter referred to as "Banerjee"). The Applicants respectfully traverse the rejection.

In particular, the Applicants submit that Agarwal and Banerjee, singly or in any permissible combination, fail to teach, show or suggest the novel invention of examining the body substring of a datagram to determine, based on the contents of the body substring, whether the substring matches a substring of interest, as recited in the Applicants' independent claims 1, 26, and 51.

By contrast, Agarwal merely teaches a method for reconstructing segmented packets transmitted over a network using header information (*e.g.*, sequence numbers, source information, and destination information). In other words, the system taught by Agarwal is unconcerned with the body (*i.e.*, data contents) of the packet segments, as it is not needed to determine the order of the packet segments. For instance, the portion of Agarwal that that Examiner cites to support the teaching of "applying an automaton ... having a list of substrings of interest to content of said substring to determine whether said substring matches one of said substrings of interest" at most teaches the use of bits in a packet header to indicate whether a received segment is a first (F bit) or last (L bit) segment in a segmented packet.

The Examiner acknowledges in the Office Action that Agarwal "fails to specifically disclose having a datagram comprise a body substring and a header and applying an automation [sic] having a list of substrings of interest to the body substring of said

datagram to determine whether said substring matches one of said substring of interest" (Office Action, Page 3). The Examiner submits, however, that this feature is taught by Banerjee. The Applicants respectfully disagree.

Banerjee, like Agarwal, teaches a method for reassembling fragmented datagrams that uses information in the headers of datagram fragments in order to determine how to reassemble the fragments. In other words, the system taught by Banerjee is also unconcerned with the body (*i.e.*, data contents) of the datagram fragments, as it is not needed to determine the manner of reassembly. For instance, the portion of Bannerjee that that Examiner cites to support the teaching of "applying an automaton ... having a list of substrings of interest to content of said substring to determine whether said substring matches one of said substrings of interest" at most teaches that a reassembly queue for a datagram fragment "is selected by hashing the ip_id (i.e., the datagram ID) appearing in the fragment's header ..." (Banerjee, paragraph 0024, emphasis added). Thus, the "ip_id" does not "represent[ ] the body substring of [the] datagram," (Office Action, Page 4) as the Examiner suggests, but is rather a part of the datagram's header. Banerjee therefore suffers from the same deficiency as Agarwal.

Notably, Applicants' invention positively claims the step of applying an automaton having a list of substrings of interest to the body substring of a datagram, in order to determine whether the received substring matches a substring of interest, as claimed in Applicants' independent claims 1, 26 and 51. Examining the body substring of the received datagram for data content facilitates a variety of data analysis techniques, including intrusion detection, packet filtering, load balancing, routing, and other network related operations that make decisions based on the contents of substrings. Specifically, Applicants' claims 1, 26 and 51 positively recite:

> 1. A method for detecting a substring of interest from a plurality of datagrams that arrives out-of-order, comprising:
> receiving a datagram, the datagram comprising a body substring and a header with an index;
> determining whether a preceding span exists in a span set;
> determining whether a succeeding span exists in said span set; and
> applying an automaton having a list of substrings of interest to the body

substring of said datagram to determine whether said body substring matches one of said substrings of interest. (Emphasis added)

26. An apparatus for detecting a substring of interest from a plurality of datagrams that arrives out-of-order, comprising:

means for receiving a datagram, the datagram comprising a body substring and a header with an index;

means for determining whether a preceding span exists in a span set;

means for determining whether a succeeding span exists in said span set; and

means for applying an automaton having a list of substrings of interest to the body substring of said datagram to determine whether said body substring matches one of said substrings of interest. (Emphasis added)

51. A computer-readable medium having stored thereon a plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to perform the steps of a method for detecting a substring of interest from a plurality of datagrams that arrives out-of-order, comprising of:

receiving a datagram, the datagram comprising a body substring and a header with an index;

determining whether a preceding span exists in a span set;

determining whether a succeeding span exists in said span set; and

applying an automaton having a list of substrings of interest to the body substring of said datagram to determine whether said body substring matches one of said substrings of interest. (Emphasis added)

As discussed above, the systems of Agarwal and Banerjee are completely devoid of any teaching or even suggestion relating to the desirability of examining the body of a data packet (or segment thereof). Thus, the Applicants respectfully submit that claims 1, 26 and 51 fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

Claims 2-25, 27-50, and 52-64 depend from independent claims 1, 26, and 51 and recite additional features. As such, and for at least the same reasons stated above with respect to claims 1, 26, and 51, the Applicants respectfully submit that claims 2-25, 27-50, and 52-64 also fully satisfy the requirements of 35 U.S.C. §103 and are

patentable thereunder.

III. CONCLUSION

Thus, the Applicants submit that all of the presented claims fully satisfy the requirements of 35 U.S.C. §103. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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